

Claims:

1 An apparatus for cutting a catalyst substrate having a longitudinal axis, comprising:
5 (a) a first guide;
10 (b) a second guide spaced from the first guide along the longitudinal axis;
15 (c) a cutting filament extending from the first guide to the second guide; and
20 (d) a drive mechanism connected to one of the first guide and the second guide for rotating the one of the first guide and the second guide relative to the remaining one of the first guide and the second guide to intersect the cutting filament with the longitudinal axis of the catalyst substrate.

Sub A1

2. The apparatus of Claim 1, wherein the first guide is a collar sized to encircle a cross-section area of the catalyst substrate.

3. The apparatus of Claim 1, wherein the first guide includes a bearing surface for contacting the cutting filament and the second guide includes a corresponding bearing surface for contacting the cutting filament.

4. The apparatus of Claim 1, wherein the first guide and the second guide are selected to define a variable distance along the longitudinal axis, between the guides.

5. The apparatus of Claim 1, wherein the cutting filament is disposed about an open path.

25 6. The apparatus of Claim 1, wherein the cutting filament is disposed about a closed path.

30 7. The apparatus of Claim 1, further comprising a carriage for selectively varying the distance between the first guide and the second guide.

8. The apparatus of Claim 1, further comprising a bearing surface on the first guide for locating the cutting filament relative to the first guide at a predetermined distance from the longitudinal axis.

5 9. The apparatus of Claim 1, further comprising a bearing surface on the second guide for locating the cutting filament relative to the second guide at a predetermined distance from the longitudinal axis.

10 10. The apparatus of Claim 1, wherein one of the first guide and the second guide is selected to form a non-concentric shaped face on the catalyst substrate.

15 11. The apparatus of Claim 1, wherein one of the first guide and the second guide is selected to form an asymmetric shaped face on the catalyst substrate.

20 12. A method of cutting catalyst substrate to length, comprising;
(a) translating a cutting filament inclined relative to a longitudinal axis of the catalyst substrate to intersect a portion of the cutting filament with the longitudinal axis.

13. The method of Claim 12, further comprising locating a first guide and a second guide adjacent the catalyst substrate.

25 14. The method of Claim 13, further comprising rotating the first guide relative to the second guide.

15. The method of Claim 13, further comprising passing the cutting filament about an open path, wherein the open path includes a path section extending between the first guide and the second guide.

30 16. The method of Claim 13, further comprising passing the cutting filament about a closed path, wherein the closed path includes a path section extending between the first guide and the second guide.

17. The method of Claim 12, further comprising forming an asymmetric shaped face on the catalyst substrate.

5 18. The method of Claim 12, further comprising forming a non-concentric shaped face on the catalyst substrate.